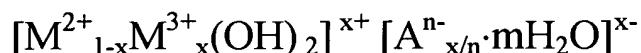


I claim

✓ 1. A synthetic hydrotalcite of the general formula:



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wherein M^{2+} is a divalent cation, M^{3+} is a trivalent cation and A^{n-} is at least one organic anion selected from straight chain carboxylates of C_5 - C_{18} acids, carboxylates of aromatic acids carboxylates of acrylic acid, unsaturated carboxylates of methacrylic acid and unsaturated carboxylates of vinylacetic acid.

2. The synthetic hydrotalcite of claim 1, wherein said divalent cation source, M^{2+} consists essentially of Mg^{2+} .

3. The synthetic hydrotalcite of claim 1, wherein said trivalent cation source, M^{3+} consists essentially of Al^{3+} .

4. The synthetic hydrotalcite of claim 1, wherein said at least one organic anion, A^{n-} comprises a hexanoate.

5. The synthetic hydrotalcite of claim 1, wherein said at least one organic anion, A^{n-} comprises an octanoate.

6. The synthetic hydrotalcite of claim 1, wherein said at least one organic anion, A^{n-} comprises a decanoate.

7. The synthetic hydrotalcite of claim 1, wherein said at least one organic anion, A^{n-} comprises a stearate.

8. The synthetic hydrotalcite of claim 1, wherein said at least one organic anion, A^{n-} comprises a benzoate.

9. The synthetic hydrotalcite of claim 1, wherein said at least one organic anion, A^{n-} comprises a chlorobenzoate.

10. The synthetic hydrotalcite of claim 1, wherein said at least one organic anion, A^{n-} comprises a naphthoate.

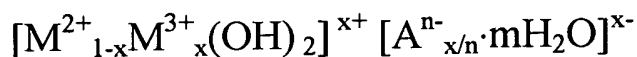
11. The synthetic hydrotalcite of claim 1, wherein said at least one organic anion, A^{n-} comprises a p-hydroxybenzoate.

12. The synthetic hydrotalcite of claim 1, wherein said at least one organic anion, A^{n-} comprises an acrylate.

13. The synthetic hydrotalcite of claim 1, wherein said at least one organic anion, A^{n-} comprises a methacrylate.

14. The synthetic hydrotalcite of claim 1, wherein said at least one organic anion, A^{n-} comprises a vinylacetate.

~~15.~~ The synthetic hydrotalcite of the general formula:



wherein M^{2+} is a divalent cation, M^{3+} is a trivalent cation and A^{n-} is an anion comprising a mixture of at least two members of the group consisting of straight chain saturated carboxylates of C_2 - C_4 acids, straight chain saturated carboxylates of C_5 - C_{18} acids, carboxylates of aromatic acids, unsaturated carboxylates of acrylic acid, unsaturated carboxylates of methacrylate acid and unsaturated carboxylates of vinylacetic acid.

16. The synthetic hydrotalcite of claim 15, wherein said organic anion, A^{n-} is a mixture of an acetate, a hexanoate and a stearate.

17. The synthetic hydrotalcite of claim 16, wherein the molar ratio of said mixture is about 1.34 acetate : 0.6 hexanoate : 0.8 stearate.

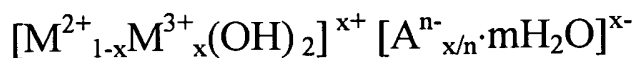
18. The synthetic hydrotalcite of claim 15, wherein said organic anion, A^{n-} is a mixture of an acrylate, an acetate and a stearate.

19. The synthetic hydrotalcite of claim 18, wherein the molar ratio of said mixture is about 3.76 acrylate : 1.14 acetate : 0.57 stearate.

20. The synthetic hydrotalcite of claim 15, wherein said divalent cation, M^{2+} comprises Mg^{2+} and up to 50% of at least one divalent cation selected from Ni^{2+} , Co^{2+} , Zn^{2+} , Cu^{2+} and Mn^{2+} .

21. The synthetic hydrotalcite of claim 15, wherein said trivalent cation, M^{3+} comprises Al^{3+} and up to 50% of at least one trivalent cation selected from Al^{3+} , Cr^{3+} , and Fe^{3+} .

22. A method of making a synthetic hydrotalcite having the general formula



wherein M^{2+} is a divalent cation source, M^{3+} is a trivalent cation source and A^{n-} is an organic anion source selected from straight chain carboxylates of C_5 - C_{18} acids, carboxylates of aromatic acids, carboxylates of acrylic acid, unsaturated carboxylates of methacrylic acid and unsaturated carboxylates of vinylacetic acid, said method comprising:

reacting said trivalent cation source, M^{3+} with said organic anion source, A^{n-} to produce an intermediate; and

reacting said intermediate with said divalent cation source, M^{2+} in water to produce said synthetic hydrotalcite.

23. The method of claim 22, wherein said step of reacting said trivalent cation source, M^{3+} with said organic anion source, A^{n-} occurs in water.

24. The method of claim 23, wherein the reaction time of said step of reacting said trivalent cation source, M^{3+} with said organic anion source, A^{n-} is from about 4 to about 8 hours at a temperature of about 75°-85°C.

25. The method of claim 22, wherein the reaction time of said step of reacting said divalent cation source, M^{2+} with said intermediate is from about 4 to about 8 hours at a temperature of about 90°C.

26. The method of claim 22, wherein said step of reacting said trivalent cation source, M^{3+} with said organic anion source, A^{n-} occurs in an organic solvent.

27. The method of claim 26, wherein said organic solvent is hexane.

28. The method of claim 22, wherein said step of reacting said trivalent cation source, M^{3+} with said organic anion source, A^{n-} occurs in an acid melt.

29. The method of claim 22, wherein said trivalent cation source, M^{3+} consists essentially of Al^{3+} .

30. The method of claim 22, wherein said trivalent cation source, M^{3+} contains Al^{3+} and up to 50% of at least one of Cr^{3+} and Fe^{3+} .

31. The method of claim 22, wherein said divalent cation source, M^{2+} consists essentially of Mg^{2+} .

32. The method of claim 22, wherein said divalent cation source, M^{2+} contains Mg^{2+} and up to 50% of at least one of Ni^{2+} , Co^{2+} , Zn^{2+} , Cu^{2+} and Mn^{2+} .

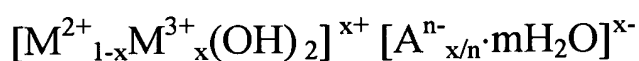
33. The method of claim 22, wherein said organic anion source, A^{n-} is selected from hexanoates, octanoates, decanoates, stearates, benzoates, chlorobenzoates, naphthoates, p-hydroxybenzoates, acrylates, methacrylates and vinylacetates.

34. The method of claim 22, wherein said organic anion source, A^{n-} is comprised of a mixture of at least two of the following: straight chain saturated carboxylates of C_5 - C_{18} acids, carboxylates of aromatic acid, carboxylates of acrylic acid, unsaturated carboxylates of methacrylic acid, and unsaturated carboxylates of vinylacetic acid.

35. A synthetic hydrotalcite-polyolefin blend comprising:

a polyolefin; and

a synthetic hydrotalcite of the general formula:



wherein M^{2+} is a divalent cation, M^{3+} is a trivalent cation and A^{n-} an organic anion source selected from straight chain carboxylates of C_5 - C_{18} acids, carboxylates of aromatic acids, carboxylates of acrylic acid, unsaturated carboxylates of methacrylic acid and unsaturated carboxylates of vinylacetic acid.

36. The synthetic hydrotalcite-polyolefin blend of claim 35, wherein said divalent cation, M^{2+} consists essentially of Mg^{2+} .

37. The synthetic hydrotalcite-polyolefin blend of claim 35, wherein said trivalent cation, M^{3+} consists essentially of Al^{3+} .

38. The synthetic hydrotalcite-polyolefin blend of claim 35 wherein said organic anion, A^{n-} is selected from the group consisting of hexanoates, octanoates, decanoates,

stearates, benzoates, chlorobenzoates, naphthoates, p-hydroxybenzoates, acrylates, methacrylates and vinylacetates.

39. The synthetic hydrotalcite-polyolefin blend of claim 35, wherein said organic anion, A^{n-} is comprised of a mixture of at least two of the following: straight chain saturated carboxylates of C_2 - C_5 acids, straight chain saturated carboxylates of C_5 - C_{18} acids, carboxylates of aromatic acids, carboxylates of acrylic acids, unsaturated carboxylates of methylacrylic acid, and unsaturated carboxylates of vinyl acetic acid.

40. The synthetic hydrotalcite-polyolefin blend of claim 35, wherein said organic anion, A^{n-} is a mixture of an acetate, a hexanoate and a stearate.

41. The synthetic hydrotalcite-polyolefin blend of claim 35, wherein the molar ratio of said mixture is about 1.34 acetate : 0.6 hexanoate : 0.8 stearate.

42. The synthetic hydrotalcite-polyolefin blend of claim 35, wherein said organic anion, A^{n-} is a mixture of an acrylate, an acetate and a stearate.

43. The synthetic hydrotalcite-polyolefin blend of claim 42, wherein the molar ratio of said mixture is about 3.76 acrylate : 1.14 acetate : 0.57 stearate.

44. The synthetic hydrotalcite-polyolefin blend of claim 35, wherein said polyolefin is polypropylene.

45. The synthetic hydrotalcite-polyolefin blend of claim 44, wherein said polyolefin is polystyrene.

46. The synthetic hydrotalcite-polyolefin blend of claim 35, wherein said polyolefin is polyvinylchloride.

47. The synthetic hydrotalcite-polyolefin blend of claim 35, wherein said polyolefin is polyethylene.

48. The synthetic hydrotalcite-polyolefin blend of claim 35, wherein said polyolefin is polybutylene.

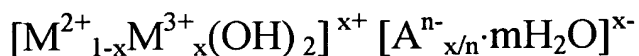
49. The synthetic hydrotalcite-polyolefin blend of claim 35, wherein said polyolefin is polymethyl pentane.

50. The synthetic hydrotalcite-polyolefin blend of claim 35, wherein said divalent cation, M^{2+} contains Mg^{2+} and up to 50% of at least one divalent cation selected from Ni^{2+} , Co^{2+} , Zn^{2+} , Cu^{2+} and Mn^{2+} .

51. The synthetic hydrotalcite-polyolefin blend of claim 35, wherein said trivalent cation, M^{3+} contains Al^{3+} and up to 50% of at least one trivalent cation selected from Cr^{3+} and Fe^{3+} .

52. A method of making a synthetic hydrotalcite-polyolefin blend, said method comprising:

mixing a polyolefin emulsion with a hydrotalcite of the following formula to obtain a blend,



wherein M^{2+} is a divalent cation source, M^{3+} is a trivalent cation source and A^{n-} is an organic anion source selected from straight chain carboxylates of C_3 - C_{18} acids, carboxylates of aromatic acids, carboxylates of acrylic acid, unsaturated carboxylates of methacrylic acid and unsaturated carboxylates of vinylacetic acid.

53. The method of claim 52, wherein said polyolefin emulsion comprises polypropylene.

54. The method of claim 52, wherein said polyolefin emulsion comprises polystyrene.

55. The method of claim 52, wherein said polyolefin emulsion comprises polyvinylchloride.

56. The method of claim 52, wherein said polyolefin emulsion comprises polyethylene.

57. The method of claim 52, wherein said polyolefin emulsion comprises polybutylene.

58. The method of claim 52, wherein said polyolefin emulsion comprises polymethyl butane.

59. The method of claim 52 further including a step of drying said blend.

60. The method of claim 59, wherein said step of drying comprises spray-drying.

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